

MAGICOM MAIN LOGIC SCHEMATIC REVISIONS

- A. Original release.
- B. R3: Was 1K; became 300.
D0 on U20 incorrectly shown as Pin 8. Changed to pin 18 on 6/23/83.
- C. Addition of capacitor C63, 220pf disc between U24, Pin 3 and ground. 6/27/83.
- D. C54: Was 0.001uf disc. Became 0.1uf disc on 6/29/83.
C63: Was 220pf disc. Became 0.001uf disc on 6/29/83.
74LS244 inserted between 4MHz signal and U1 (Z80), Pin 6.
U17, Pins 13 and 7 used - these were formerly a spare gate. 6/29/83.
- E. C40, 0.01 disc tied between U22, Pin 2 and ground is deleted.
74LS244 inserted between Q1 collector and U22, Pins 1 and 2.
U17, Pins 11 and 9 used - these were formerly a spare gate.
U1(Z80), Pin 25 cut from U7 (MC68705P5), Pin 9. U1(Z80), Pin 25 tied to R48 (new addition) 4.7K $\frac{1}{4}$ W 5% resistor. Other side of R48 tied to +5V.
U18(74LS245), Pin 19 cut from U7(68705, Pin 14. U18, Pin 19 tied to +5V.
U17(74LS244), Pin 17 cut from U7, Pin 19. U17, Pin 17 tied to +5V.
U23(74LS244), Pin 1 cut from U22(74LS00), Pin 11. U23, Pin 1 tied to ground.
All of "E" above were effective on 7/8/83.
- F. Deletion of the following effective 7/8/83:
- | | |
|-----|---------|
| U5 | 74LS244 |
| U6 | 74LS393 |
| U12 | 74LS244 |
| U13 | 74LS393 |
| U17 | 74LS244 |
| U18 | 74LS245 |
- Substitute U23 for U17 (74LS244) for clock signal into Z80 (U1, Pin 6 from U23, Pin 7) and reset signal into U22, Pins 1 and 2 from U23, Pin 9 effective 7/8/83.
- G. C63: Was 0.001uf disc. Became 470pf effective 9/5/83.
- H. Reset signal sent from U23, Pin 9 to U16, Pin 1 to cure false coin count on power up.
- I. Reference letter not used.

J. Correct pin out for inputs on U20(74LS244) effective 9/16/83.

K. C63: Was 470pf disc; became 330pf disc.

C17: Was 330pf mica; became 330pf disc.

Addition of U31(74LS74) to divide clock.

Y1: Was 4.000MHz; became 16.000MHz.

U24: Was 74LS04; became 74S04.

Addition of R29 between U29, Pin 4 and C24.

Addition of R50 between U30, Pin 4 and C50.

These two additions allow option for U29 and 30 with the following components:

	<u>LM383</u>	<u>CA2002</u>
R49, R50	= 0 ohm jumper	2.2 ohm, $\frac{1}{4}$ W 5%
C24, C50	= 0.2 Disc	0.1 disc

Addition of Jumper W1, when installed, allows board to be used with Pioneer 7820 disc player with proper software.

Deleted: U7 MC68705

Addition (reinstallation) U6, 74LS393

U13, 74LS393

U6, Pins 2 and 12, and U13, Pins 2 and 12 all grounds.

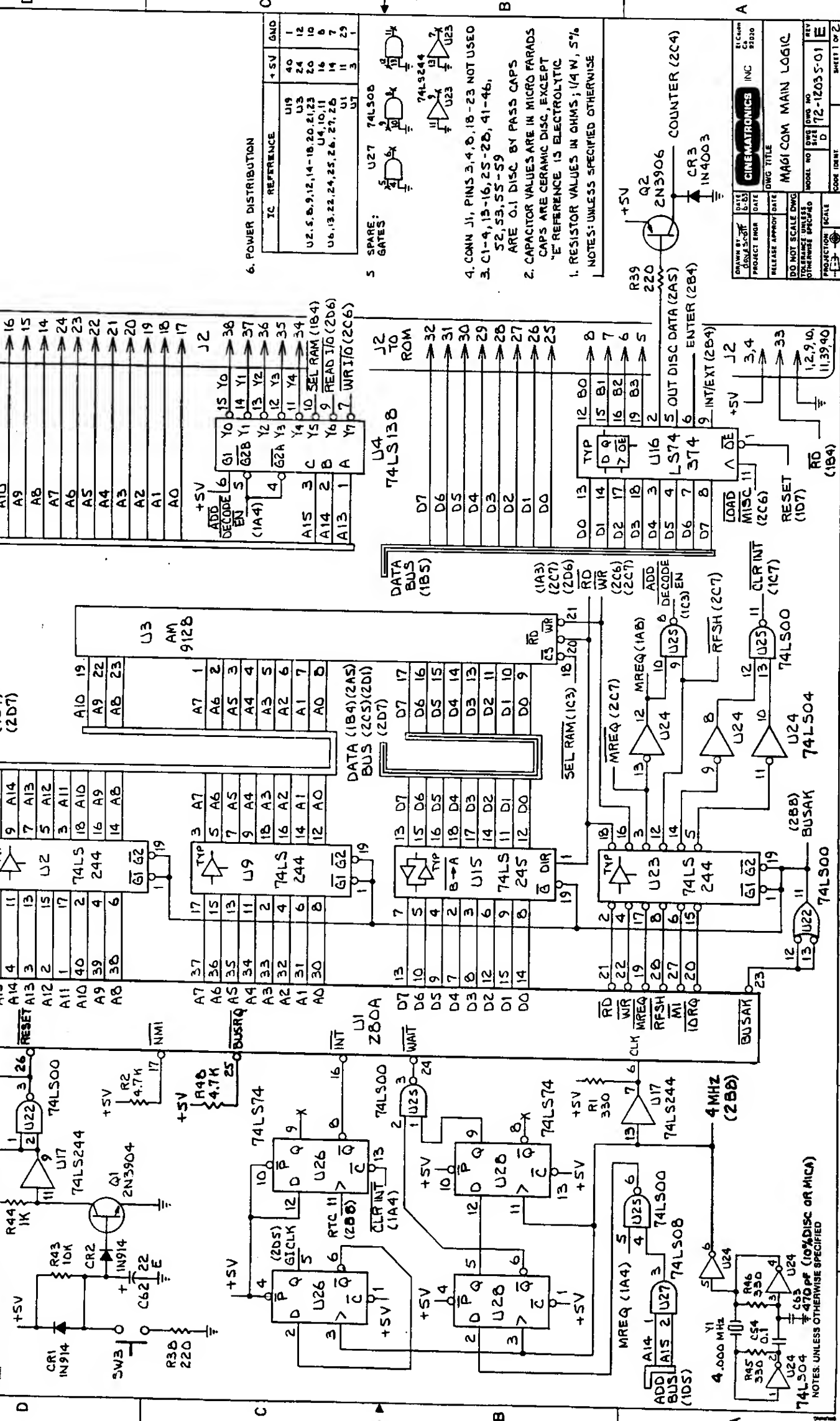
U6, Pin 6 tied to U26, Pin 11 (RTC).

U13, Pin 13 tied to U26, Pin 5 (GI CLK)

All of "K" above effective 10/10/83.

"K" revision schematic is for "C" revision printed circuit board used with LDV-1000 laser disc player.

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6. POWER DISTRIBUTION

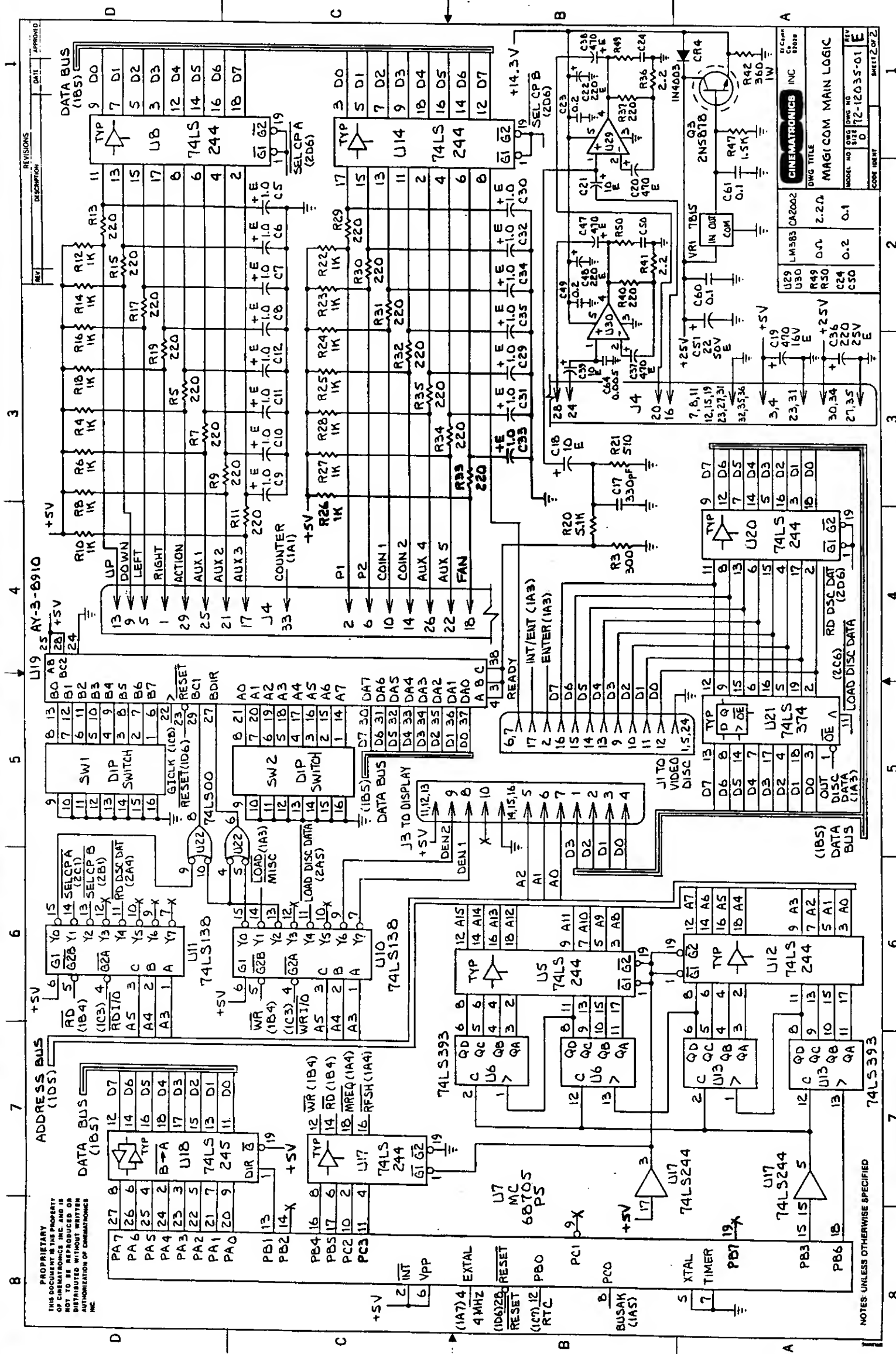
IC	REFERENCE	+SV	GND
U19	40	1	1
U2,5,9,12,14-18,20,21,23	24	12	12
U3	20	10	10
U4,10,11	16	6	6
U6,13,22,24,25,26,27,28	14	14	14
U1	11	3	29

5. SPARE GATES:
U27 74LS08
U28 74LS08
U29 74LS08
U30 74LS08
U31 74LS08
U32 74LS08
U33 74LS08
U34 74LS08
U35 74LS08
U36 74LS08
U37 74LS08
U38 74LS08
U39 74LS08
U40 74LS08
U41 74LS08
U42 74LS08
U43 74LS08
U44 74LS08
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U88 74LS08
U89 74LS08
U90 74LS08
U91 74LS08
U92 74LS08
U93 74LS08
U94 74LS08
U95 74LS08
U96 74LS08
U97 74LS08
U98 74LS08
U99 74LS08
U100 74LS08

4. CONN J1, PINS 3,4,8,18-23 NOT USED
3. C1-4,13-16,25-28,41-46,
52,53,55-59
ARE 0.1 DISC BY PASS CAPS
2. CAPACITOR VALUES ARE IN MICRO FARADS
CAPS ARE CERAMIC DISC, EXCEPT
"E" REFERENCE IS ELECTROLYTIC
1. RESISTOR VALUES IN OHMS; 1/4 W, 5%
NOTES: UNLESS SPECIFIED OTHERWISE

DATE: 5-53
PROJECT: MAGI COM MAIN LOGIC
RELEASE APPROVAL: [Signature]
DO NOT SCALE DIMS
OTHERWISE SPECIFIED
PROJECTION: [Signature]
SCALE: 1:1
CODE: 1000
SHEET 1 OF 2

1 2 3 4 5 6 7 8



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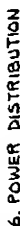
NOTES: UNLESS OTHERWISE SPECIFIED

REV	DESCRIPTION	DATE	APPROVED
1			

U29	LM383	CA2002	2.2K	0.1
U30			0.0	0.2
R49			2.2K	0.1
R50			0.0	0.2
C24			2.2K	0.1
C30			0.0	0.2

U29	LM383	CA2002	2.2K	0.1
U30			0.0	0.2
R49			2.2K	0.1
R50			0.0	0.2
C24			2.2K	0.1
C30			0.0	0.2

U29	LM383	CA2002	2.2K	0.1
U30			0.0	0.2
R49			2.2K	0.1
R50			0.0	0.2
C24			2.2K	0.1
C30			0.0	0.2

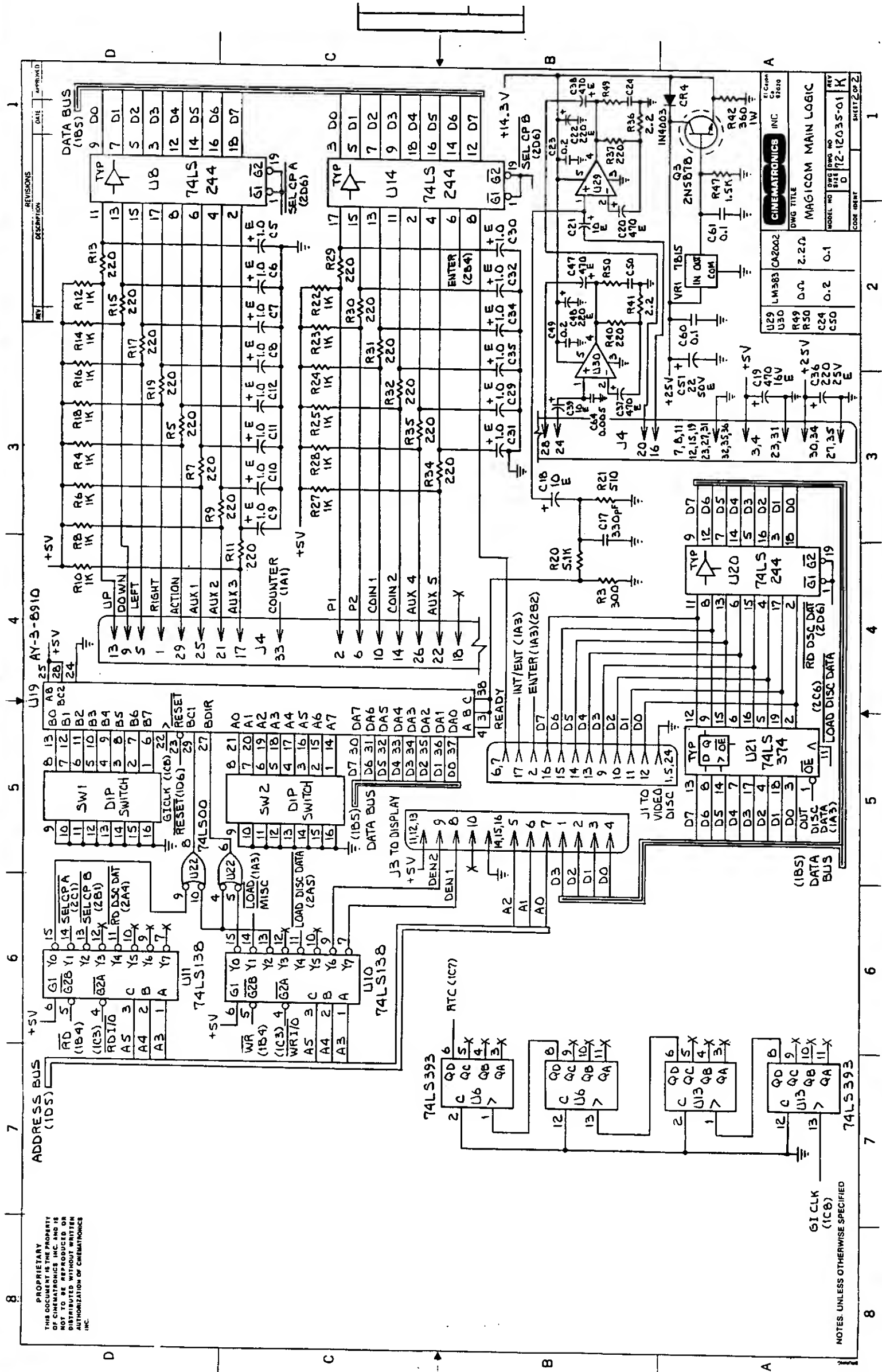


SPARE 1127 74L50B

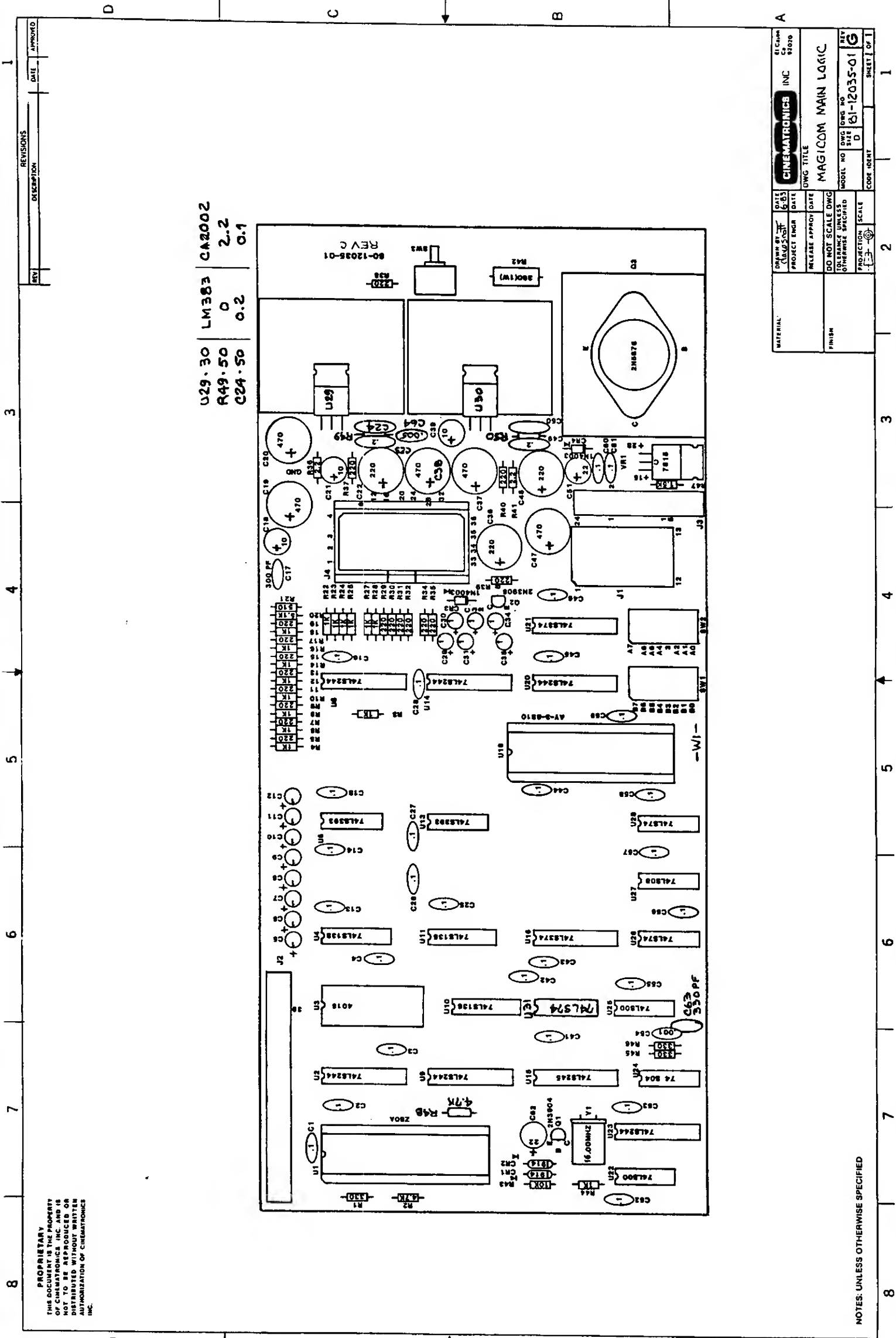
1. CONN J1, PINS 3, 4, 8, 18-23 NOT USED
2. CAPACITOR VALUES ARE IN MICRO FARADS
CAPS ARE CERAMIC DISC, EXCEPT
"E" REFERENCE IS ELECTROLYTIC
3. RESISTOR VALUES IN OHMS; 1/4 W, 5%
NOTES: UNLESS SPECIFIED OTHERWISE

NOTES: UNLESS SPECIFIED OTHERWISE

CINEMATRONICS		INC		B/C COM C-5 52000	
DWG TITLE					
MAGICOM MAIN LOGIC					
DRAWN BY D. S. SCOTT		PROJECT ENGR		DATE	
UNLESS APPROVED BY SCALE					
NO QUOTANCE UNLESS OTHERWISE SPECIFIED					
MODEL NO		DWG NO		REV	
D		12-1203-01		K	
CODE IDENT		SHEET 1 OF 2			



NOTES. UNLESS OTHERWISE SPECIFIED



U29-30 LM383 CA2002
R49-50 0 2.2
C24-50 0.2 0.1

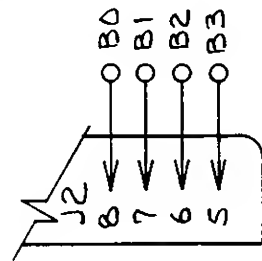
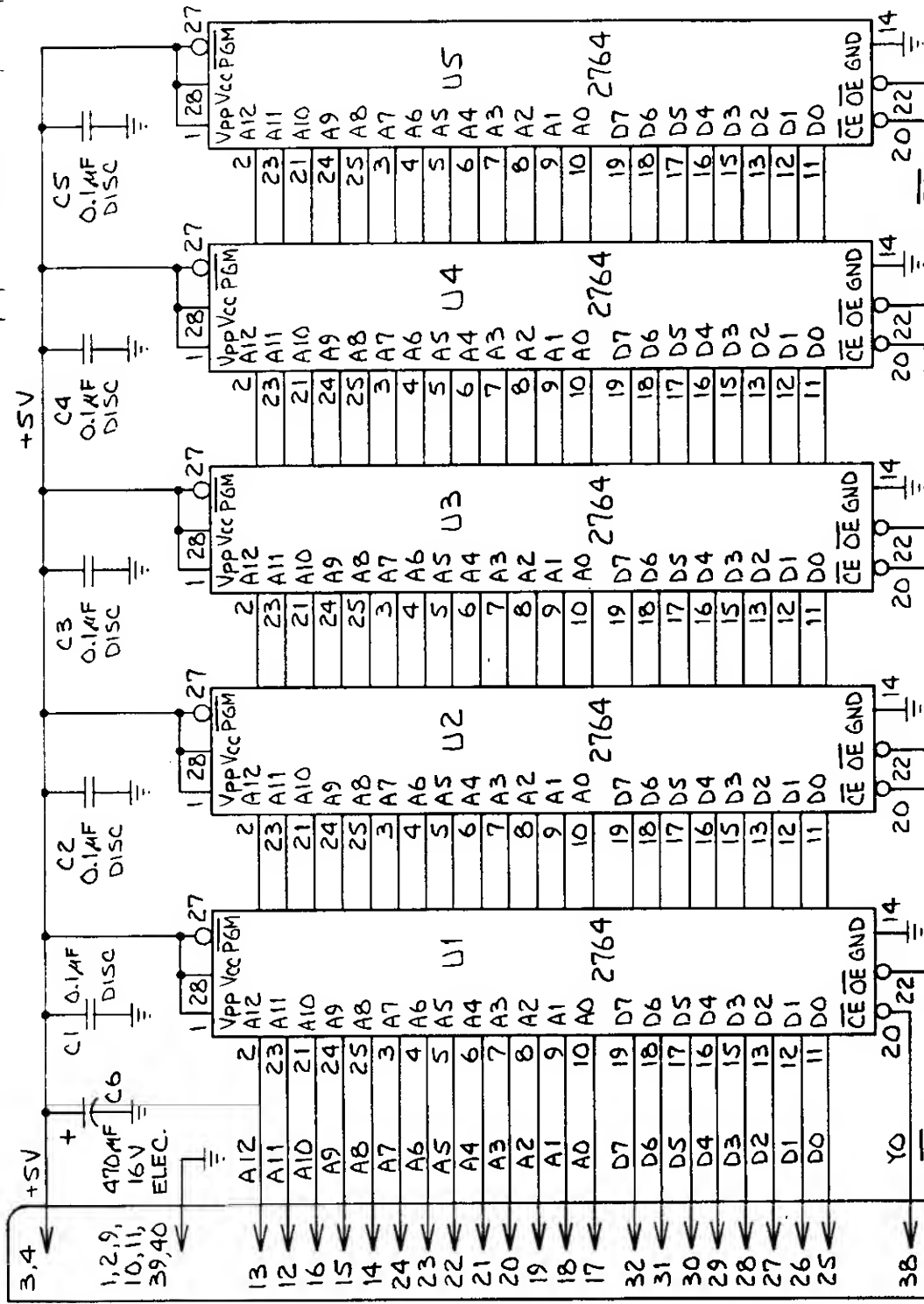
REV C
80-12035-01

CINEMATRONICS INC		DWG TITLE	
MAGICOM MAIN LOGIC		DWG NO	
MODEL NO		DWG NO	
81-12035-01		81-12035-01	
CODE IDENT		SHEET 1 OF 1	
MATERIAL		FINISH	
PROJECT ENGR		DATE	
RELEASE APPROV		DATE	
DO NOT SCALE DWG		TOLERANCE UNLESS OTHERWISE SPECIFIED	
PROJECTION		SCALE	

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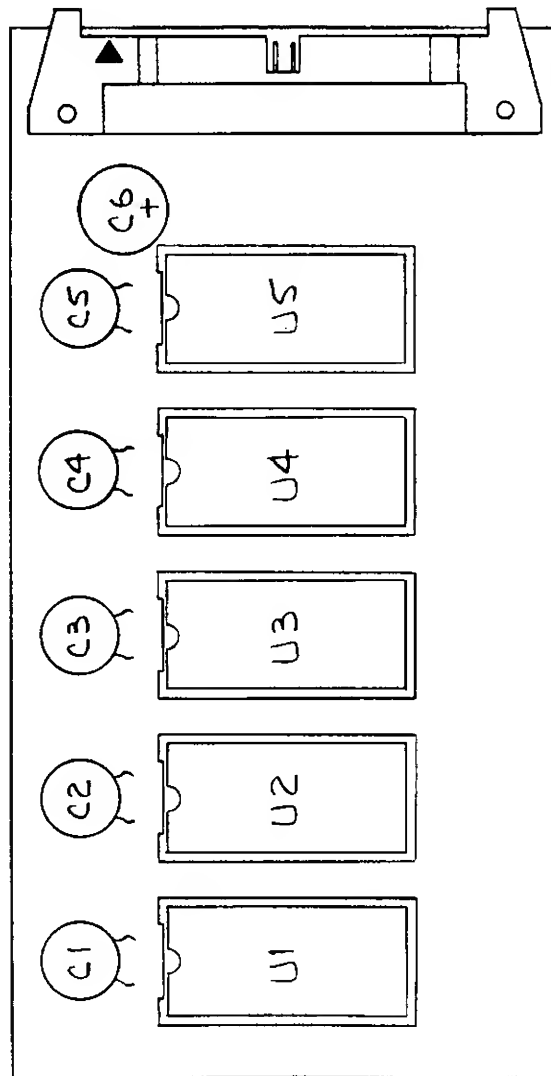
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NOTES: UNLESS OTHERWISE SPECIFIED

DRAWN BY: JAC/ASCOFF		DATE: 6/83	
PROJECT ENGR: DATE:		RELEASE APPROV: DATE:	
DO NOT SCALE DWG			
TOLERANCE UNLESS OTHERWISE SPECIFIED			
PROJECTION: SCALE		CODE IDENT	
CINEMATRONICS INC		STARCOM ROM	
DWG NO: 72-12056-01		REV: A	
MODEL NO: C		SIZE: C	
SHEET 1 OF 1			

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J2
SYMBEX 32351-1-40

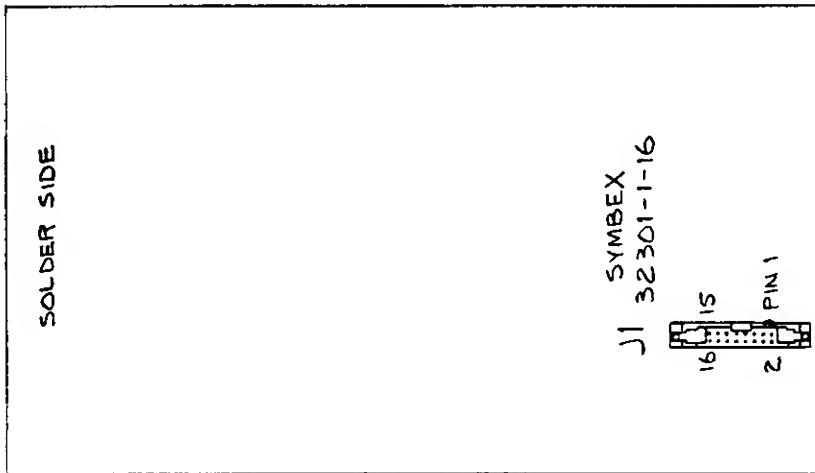
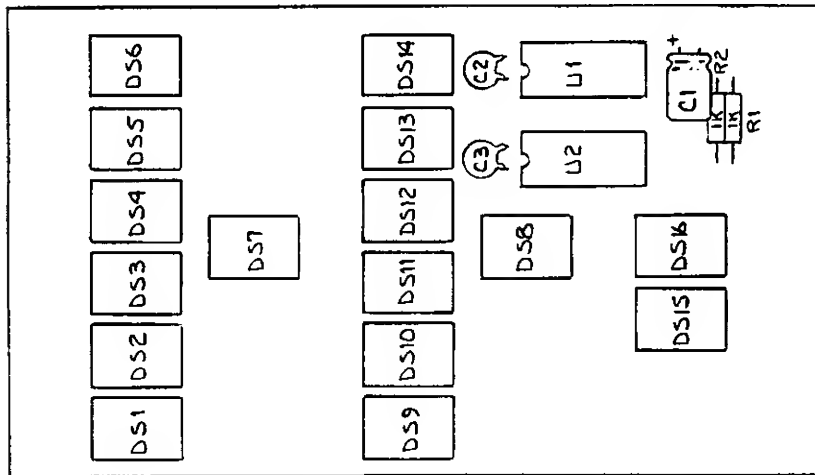
3. DRAGON'S LAIR (81-12056-01): U1-U5, 2764 WITH SOCKET
2. C6; 470 μ F, 16 V MINIMUM, ELECTROLYTIC
1. C1-C5; 0.1 μ F, 50V, DISC

NOTES: UNLESS OTHERWISE SPECIFIED

MATERIAL:		DRAWN BY: CAV. SGO	DATE: 6-83	CINEMATRONICS INC		EL Capon Ca 92020
FINISH:		PROJECT ENGR:	DATE:	DWG TITLE		
		RELEASE APPROV:	DATE:	STARCOM ROM		
		DO NOT SCALE DWG TOLERANCE: UNLESS OTHERWISE SPECIFIED		MODEL NO:	DWG NO:	REV
		PROJECTION: SCALE: 2:1		81-12056-XX	C	A
				CODE IDENT		SHEET 1 OF 1

REV	DESCRIPTION	DATE	APPROVED
1			

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6. CONNECTOR INSTALLED ON SOLDER SIDE OF P.C.B.
 5. ALL CAPACITORS TO BE LAYED DOWN
 4. C2, C3 : 0.1 uF 50 V DISC 20%
 3. C1 : 470 uF ELECTROLYTIC 16 V MINIMUM
 2. U1, U2 : ICM 7218 D
 1. DS1 - DS16 : L.E.D. MAN8940
- NOTES: UNLESS OTHERWISE SPECIFIED

31 MAY 1983

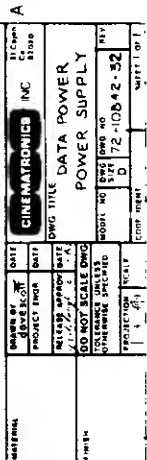
MATERIAL:	DRAWN BY: SCOTT	DATE:	DATE:	EL Cajon CA 92020
	PROJECT ENGR:	DATE:	DATE:	
FINISH:	RELEASE APPROV:	DATE:	CINEMATRONICS INC	
	DO NOT SCALE DWG TOLERANCE: UNLESS OTHERWISE SPECIFIED	DATE:	STARCOM DISPLAY	
PROJECTION: 1	SCALE: FULL	MODEL NO:	DWG NO:	REV.
			C	B
			81-12036-01	B
				SHEET 1 OF 1

4

3

2

1



3 FUSE ONE IS: 5A, SB, 250V

2 ALL 1% RESISTORS ARE 1/4 W

1. RESISTOR VALUES ARE IN OHMS, $\pm 5\%$, $\frac{1}{4}$ W

UNLESS OTHERWISE SPECIFIED

1

2

3

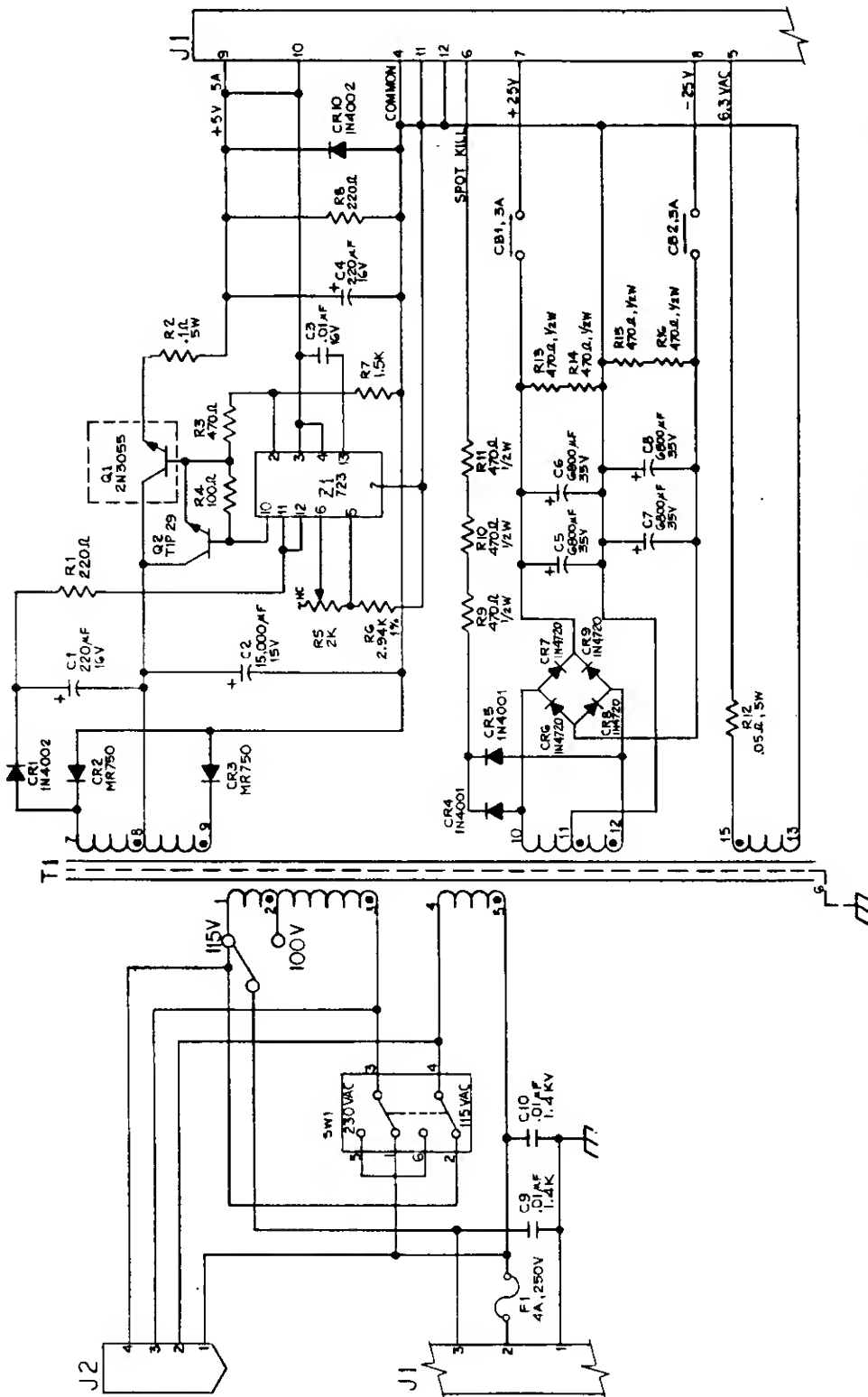
4

D

C

B

A



ZONE		REVISIONS		DATE		APPROVED	
U1	U2	DESCRIPTION	DATE	DATE	DATE	DATE	DATE
01	01	PRODUCTION RELEASE	4 DEC 80	4 DEC 80	4 DEC 80	4 DEC 80	4 DEC 80
02	02	ADD C9, 10. SEE ECO 0025-A	15 JAN 81	15 JAN 81	15 JAN 81	15 JAN 81	15 JAN 81
03	03	DWG NO. FROM 12A0013-00	29 JAN 81	29 JAN 81	29 JAN 81	29 JAN 81	29 JAN 81

QTY		CODE		IDENTIFYING NO.		PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION	
REQ	IDENT	REQ	IDENT	REQ	IDENT	REQ	IDENT	REQ	IDENT
1	1	1	1	1	1	1	1	1	1

CONTRACT NO.		DATE		APPROVALS		DATE	
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
62A0013-00	0025	4 DEC 80	15 JAN 81	4 DEC 80	15 JAN 81	4 DEC 80	15 JAN 81

NATIONAL POWER TECHNOLOGY		POWER SUPPLY	
DRAWN C. ESCALERAS		CHECKED E. BROWN	
SIZE	CODE IDENT NO	DRAWING NO	REV
C	72-10842-40	72-10842-40	B

DO NOT SCALE DRAWING		SCALE		NONE		SHEET 1 OF 1	
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
62A0013-00	0025	4 DEC 80	15 JAN 81	4 DEC 80	15 JAN 81	4 DEC 80	15 JAN 81

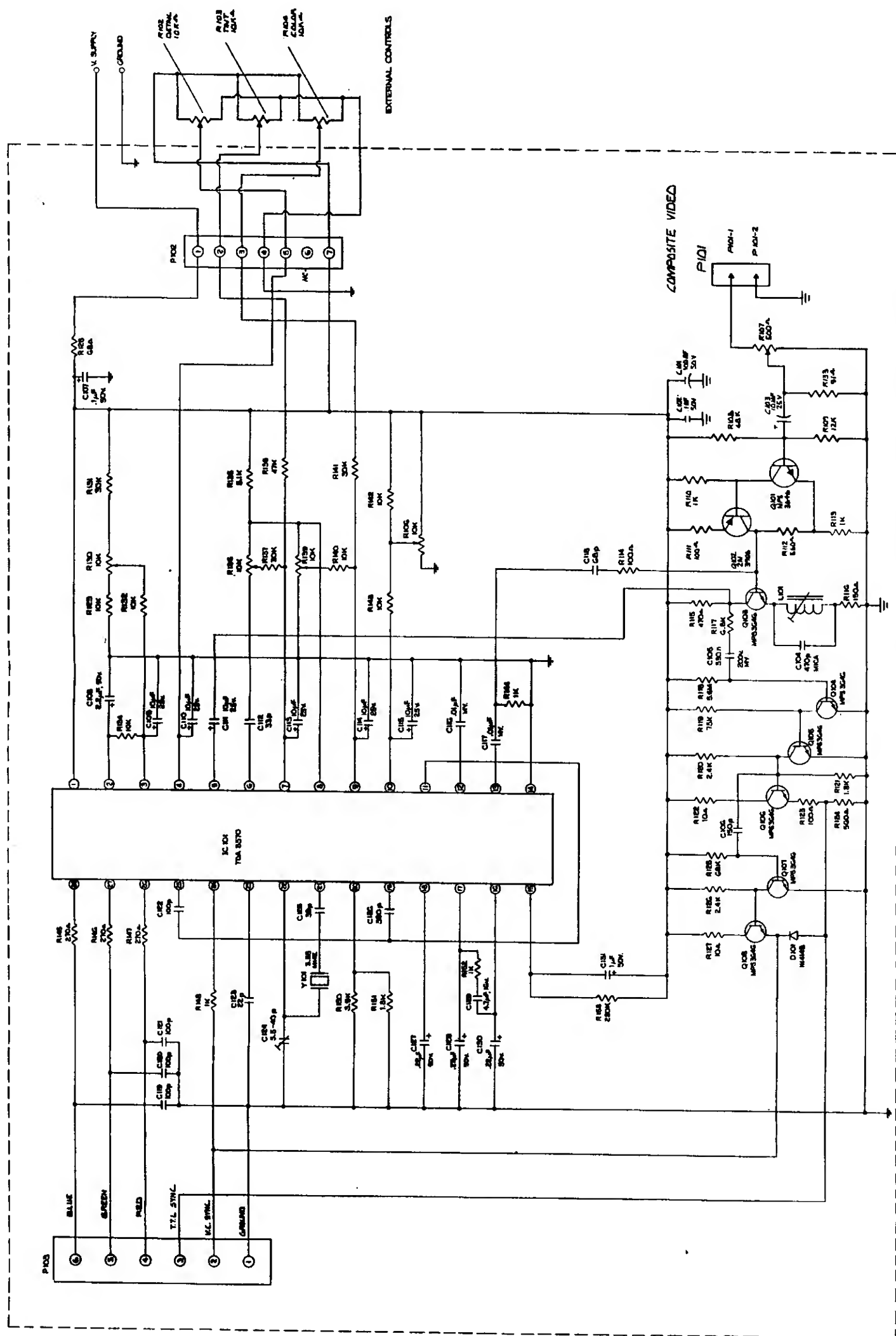
1

2

3

4

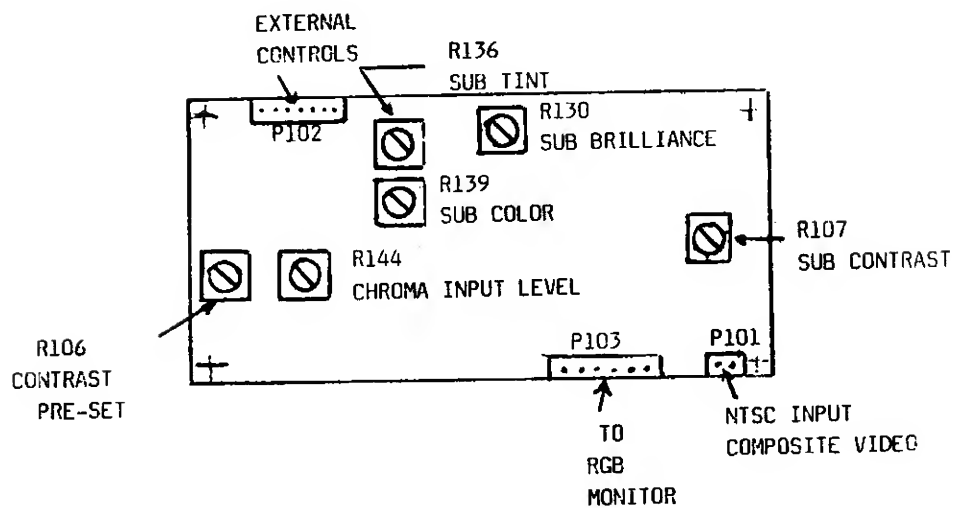
A



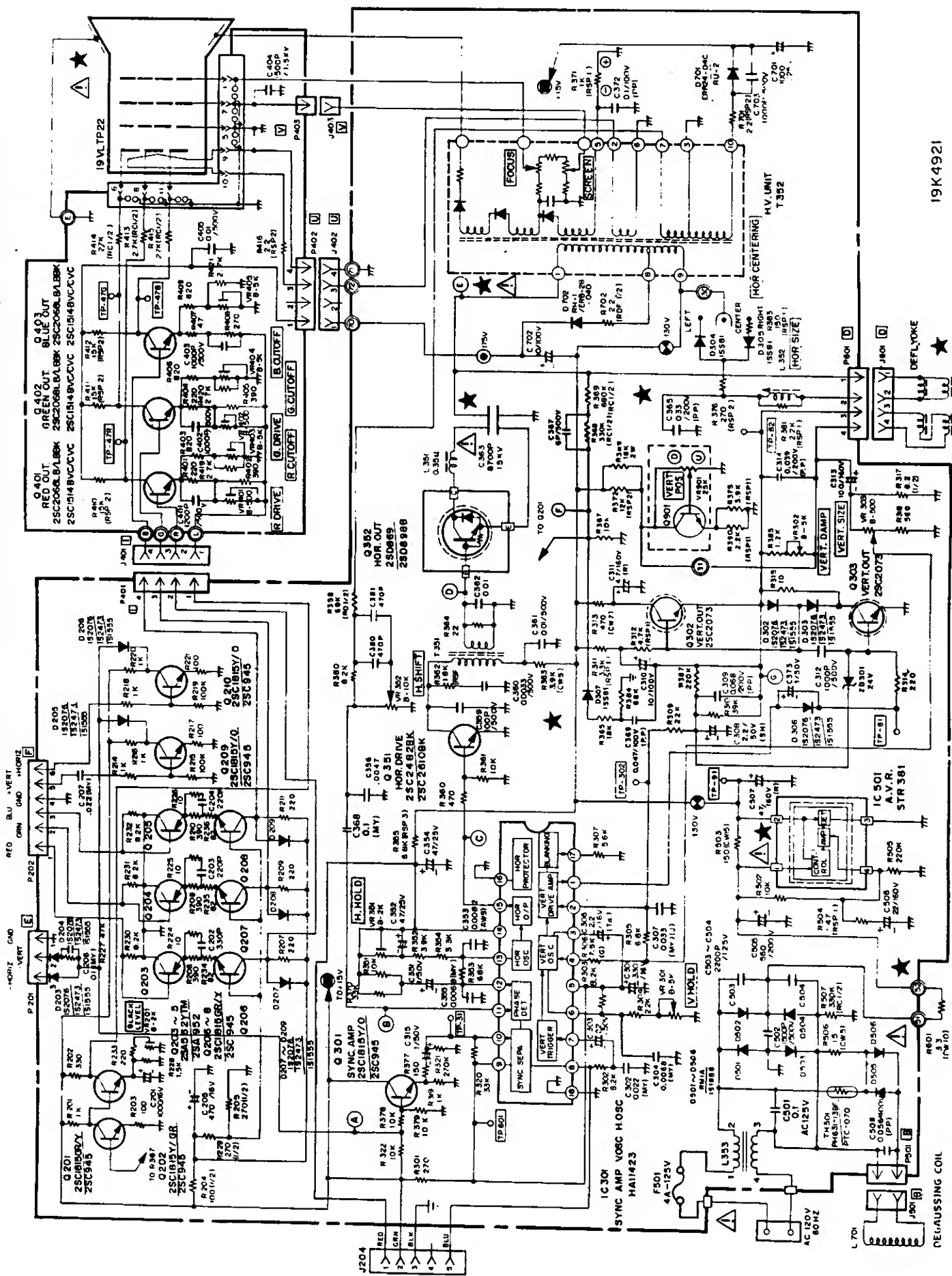
NTSC DECODER SPECIFICATIONS

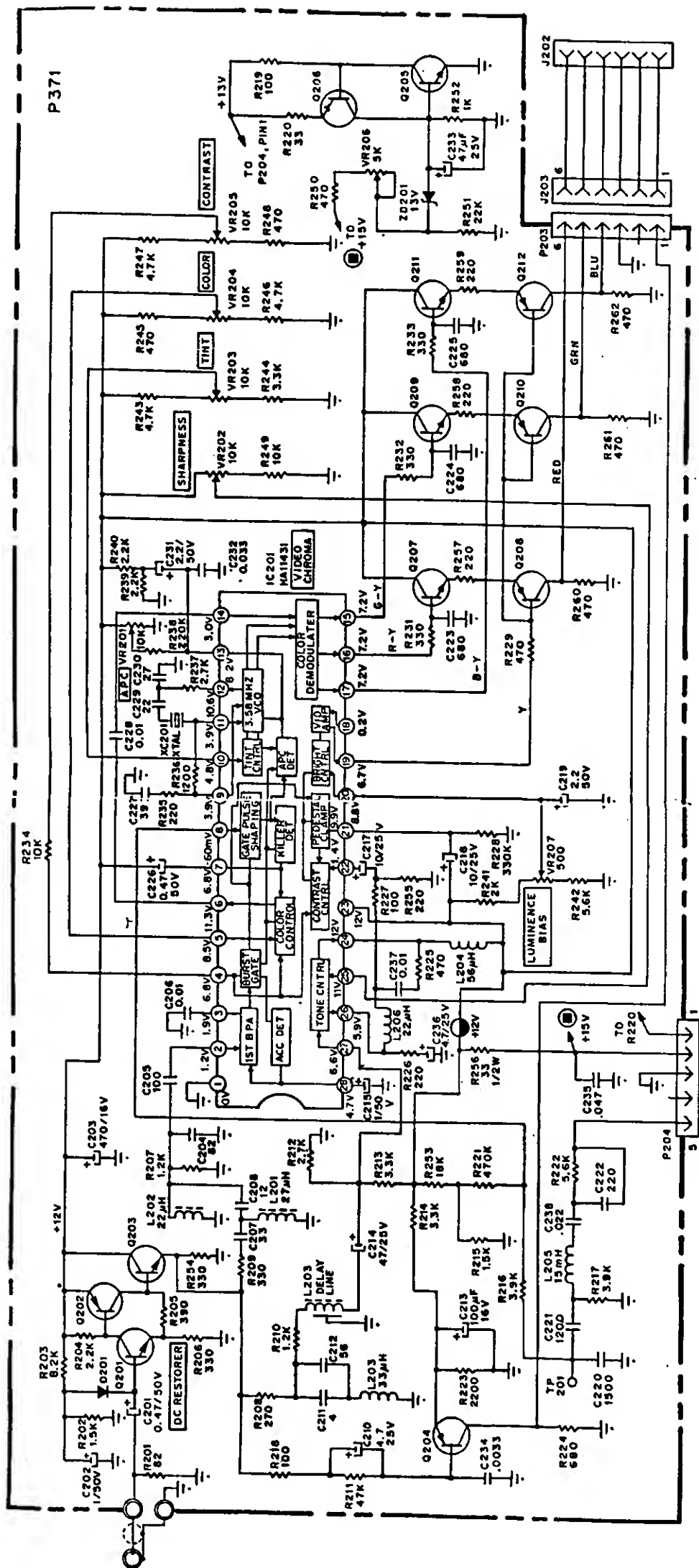
Pin Outs

P101-1 75 ohm Input
 P101-2 Ground
 P102-1 Vs Supply (16V)
 P102-2 External Tint Wiper
 P102-3 External Color Wiper
 P102-4 Ground to Control
 P102-5 External Detail Wiper
 P102-6 Not Used
 P102-7 Vcc to Control (12V)
 P103-1 Ground
 P103-2 Blanking Output
 P103-3 Positive Composite Syno.
 P103-4 Red Output
 P103-5 Green Output
 P103-6 Blue Output



19" COLOR GAME MONITOR SCHEMATIC DIAGRAM





WELLS GARDNER NTSC DECODER SCHEMATIC

1.9.84

MAGICOM WIRING HARNESS

FROM	PIN	TO	PIN	SIGNAL
LF	HOT	SW	COMMON	AC LINE HOT
SW	N/OPEN	PS1	3	AC LINE HOT
SW	N/OPEN	VDP	HOT	AC LINE HOT
LF	NEUTRAL	PS1	2	AC LINE NEUTRAL
LF	NEUTRAL	VDP	NEUTRAL	AC LINE NEUTRAL
PS2	1	ISO	PRI	115V AC #1 HOT
PS2	3	LAMP	HOT	115V AC #2 HOT
PS2	3	FAN	HOT	115V AC #2 HOT
PS2	2	ISO	PRI	115V AC #1 NEUTRAL
PS2	4	LAMP	NEUTRAL	115V AC #2 NEUTRAL
PS2	4	FAN	NEUTRAL	115V AC #2 NEUTRAL
MON	FRAME	LAMP	FRAME	FRAME GROUND
PS1	1	MON	FRAME	FRAME GROUND
LF	FRAME	PS1	1	FRAME GROUND
LF	FRAME	CPU	FRAME	FRAME GROUND
CPU	FRAME	COIN	3	FRAME GROUND
COIN	3	OCP	9	FRAME GROUND
OCP	9	CP	7	FRAME GROUND
PS1	9	CPU	3	+5V
PS1	10	CPU	4	+5V
PS1	11	CPU	7	+5V RETURN
PS1	7	CPU	30	+25V
PS1	12	CPU	8	+25V RETURN
PS1	5	COIN	8	6.3V AC LAMPS
PS1	4	COIN	9	6.3V AC LAMPS RETURN
COIN	1	CPU	10	COIN SLOT 0
COIN	2	CPU	14	COIN SLOT 1
COIN	7	CPU	11	COIN RETURN
CP	2	CPU	6	2 PLAYER START
CP	3	CPU	2	1 PLAYER START
CP	4	CPU	1	JOYSTICK RIGHT
CP	5	CPU	29	SWORD/ACTION
CP	6	CPU	5	JOYSTICK LEFT
CP	8	CPU	9	JOYSTICK DOWN
CP	9	CPU	13	JOYSTICK UP
CP	1	CPU	12	CONTROL PANEL RETURN
OCP	4	CPU	33	COIN COUNTER
OCP	8	CPU	32	COIN COUNTER RETURN
OCP	3	VDP	CENTER	DISC AUDIO (LEFT)
OCP	1	VDP	SHIELD	DISC AUDIO RETURN (LEFT)
OCP	5	VDP	CENTER	DISC AUDIO (RIGHT)

1.9.84

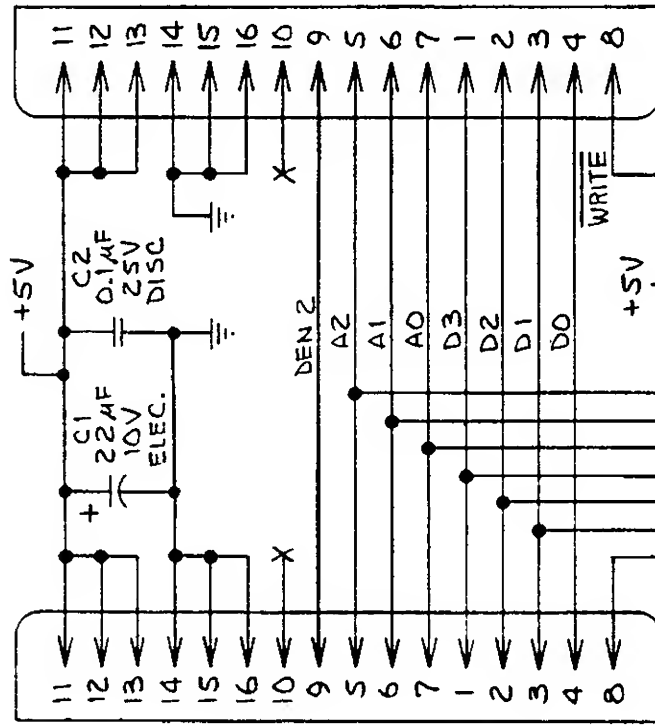
OCP	7	VDP	SHIELD	DISC AUDIO RETURN (RIGHT)
OCP	2	CPU	24	VOLUME OUT (LEFT)
OCP	1	CPU	23	VOLUME OUT RETURN (LEFT)
OCP	6	CPU	16	VOLUME OUT (RIGHT)
OCP	7	CPU	15	VOLUME OUT RETURN (RIGHT)
CPU	28	SPKR	L+	SPEAKER (LEFT)
CPU	27	SPKR	L-	SPEAKER RETURN (LEFT)
CPU	20	SPKR	R+	SPEAKER (RIGHT)
CPU	19	SPKR	R-	SPEAKER RETURN (RIGHT)

PS1 = POWER SUPPLY 12 PIN CONNECTOR
PS2 = POWER SUPPLY 4 PIN CONNECTOR
FAN = COOLING FAN
SW = POWER SWITCH
CPU = LOGIC BOARD
LAMP = FLORESCENT LAMP
CP = CONTROL PANEL
SPKR = SPEAKERS
COIN = COIN DOOR
MON = MONITOR
VDP = VIDEODISC PLAYER
LF = AC LINE FILTER
OCP = OPERATOR CONVENIENCE PANEL
ISO = MONITOR ISOLATION TRANSFORMER

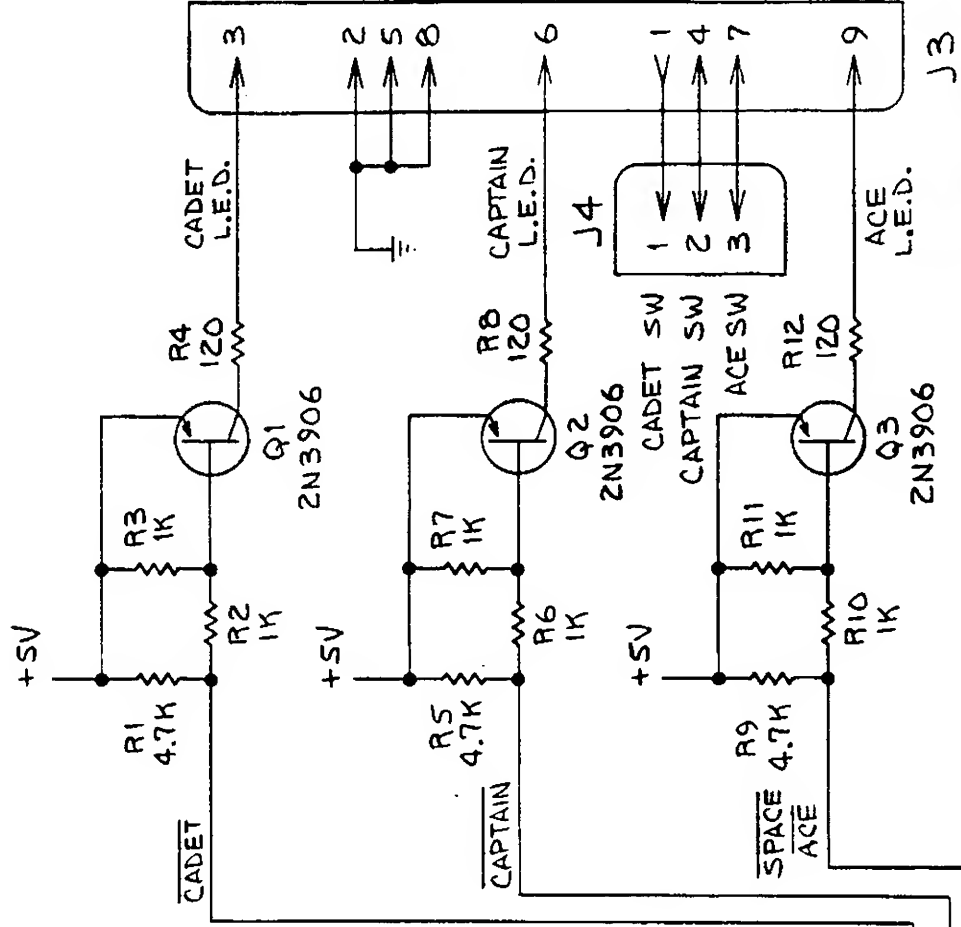
NOTE: GAMES EQUIPPED WITH PR7820 DISC PLAYERS HAVE DISC
PLAYER FRAME GROUND TIED TO LINE FILTER FRAME GROUND.

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J2
TO
DISPLAY



J1
TO
MAIN
LOGIC



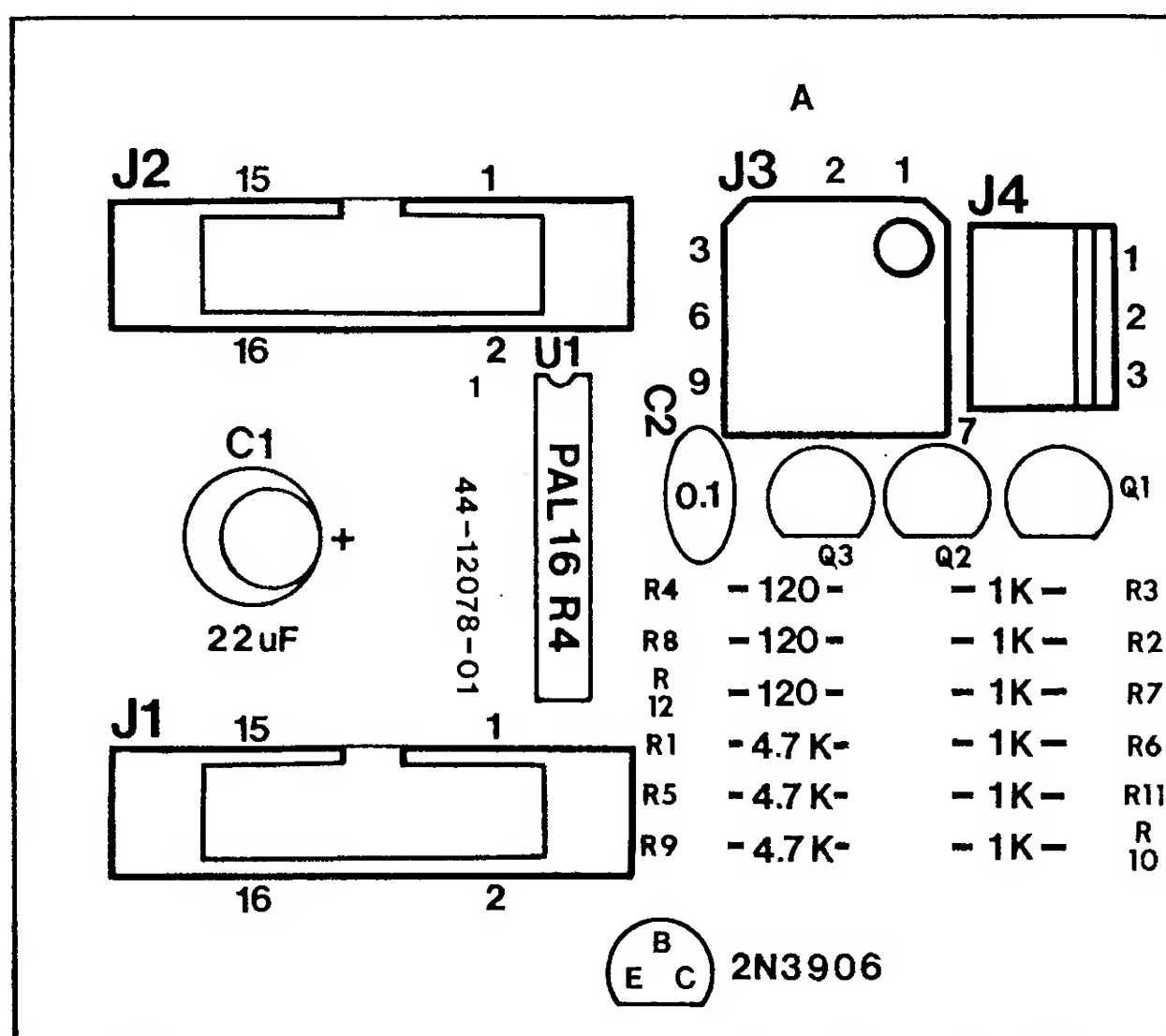
17 JANUARY 1984

DRAWN BY C. G. S. C. C.		DATE 17 JAN 84	PROJECT ENGR	DATE	RELEASE APPROV	DATE	DO NOT SCALE DWG TOLERANCE UNLESS OTHERWISE SPECIFIED	PROJECTION SCALE 1:1	CODE IDENT	SHEET 1 OF 1
MATERIAL		FINISH		CINEMATRONICS INC		DWG TITLE PANEL ANNUNCIATOR CONVERSION		MODEL NO 72-12079-01		REV A
CINEMATRONICS INC		CINEMATRONICS INC		CINEMATRONICS INC		CINEMATRONICS INC		CINEMATRONICS INC		CINEMATRONICS INC

U1
PAL 16 R 4
44-12087-01

2. RESISTORS ARE 1/4W. 5% C
1. RESISTOR VALUES IN OHMS
*NOTES: UNLESS OTHERWISE SPECIFIED

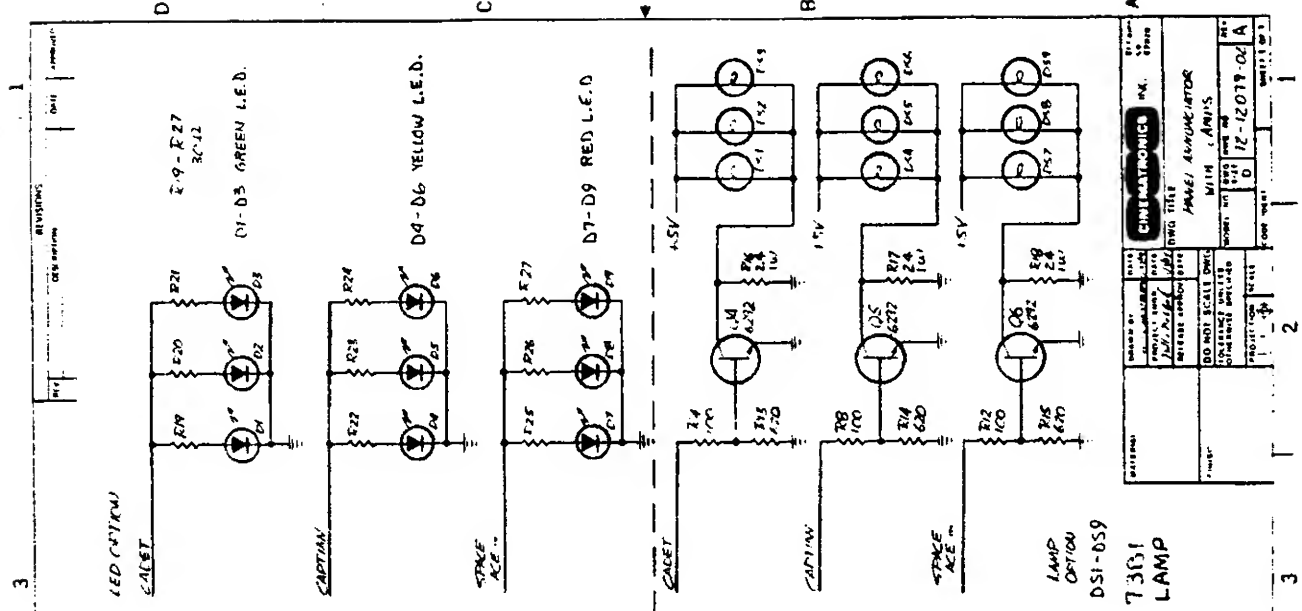
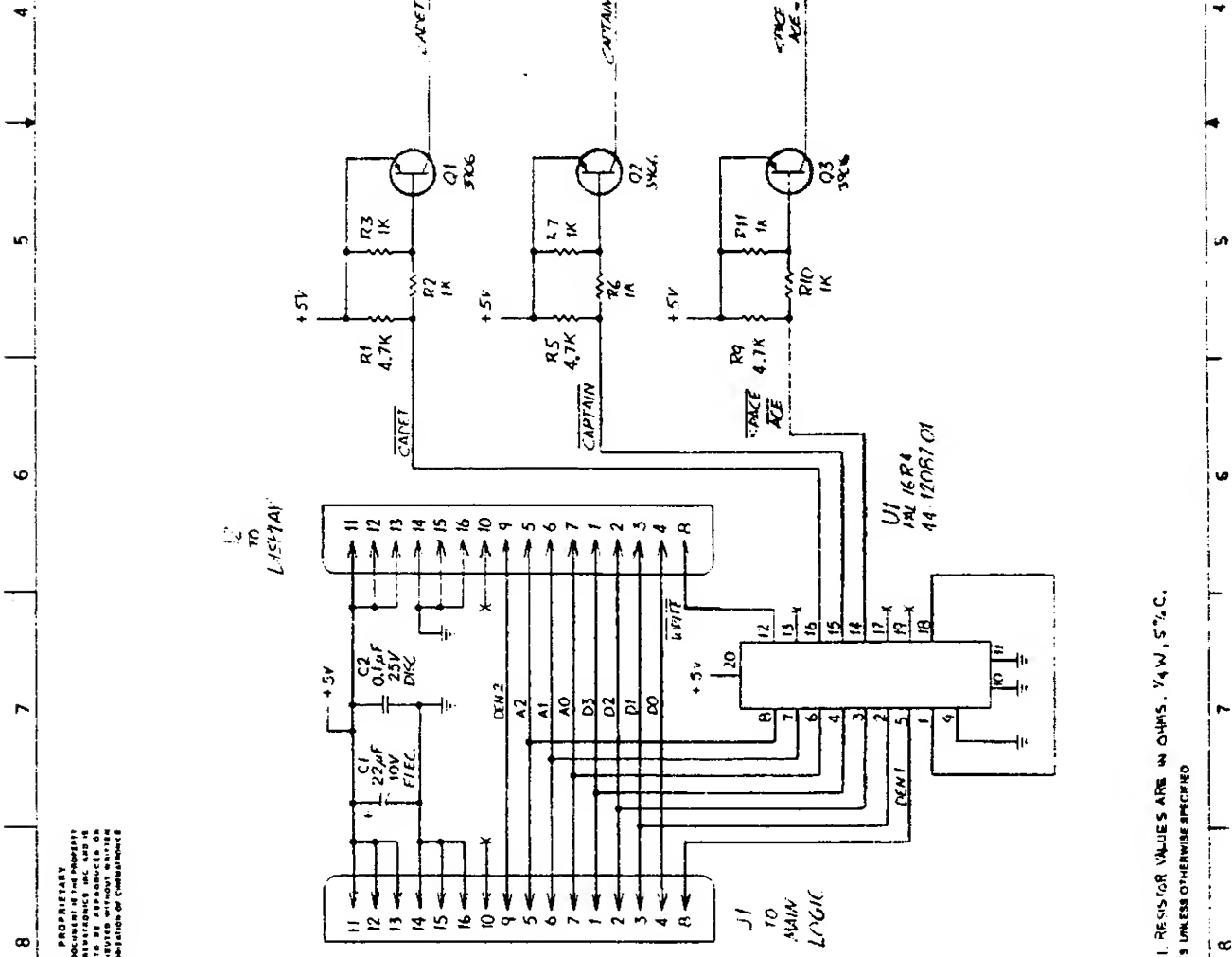
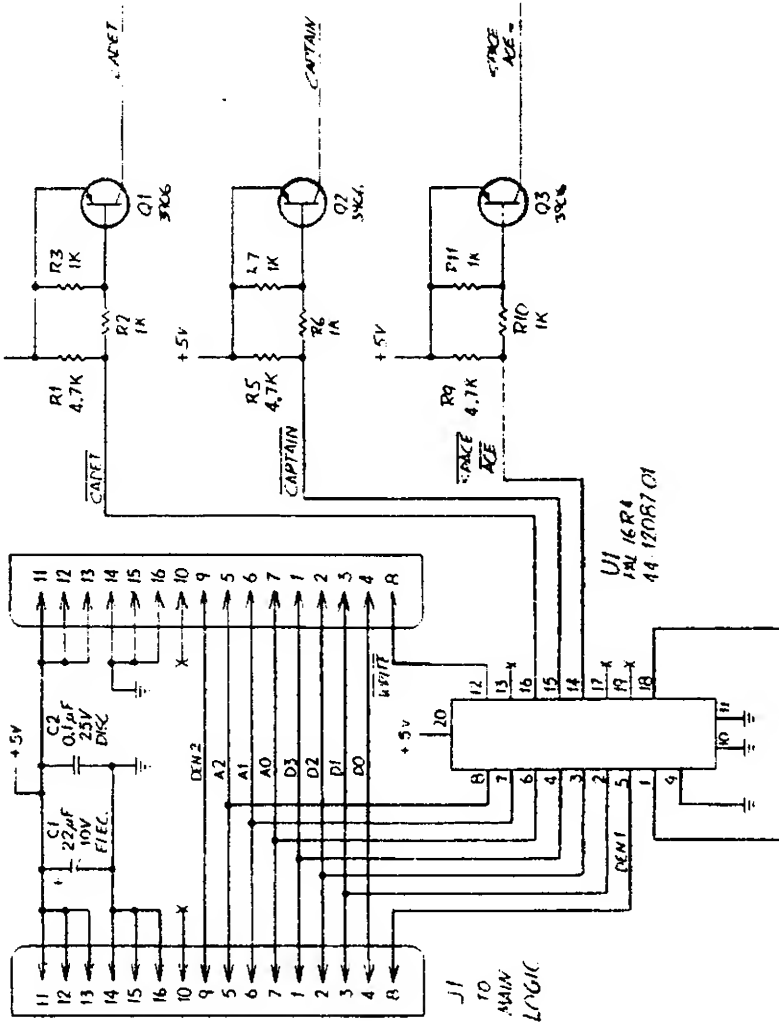
APPLICATION		REVISIONS			
NEXT ASSY	USED ON	APPROVED	DATE	DESCRIPTION	REV



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRAC. DEC. ANGL. + .XX ± - .XXX ± -	APPROVALS	DATE	CINEMATRONICS INC. El Cajon Ca. 92020	
	BY <i>davescoff</i>	1-28-84		
	CHK		PANEL ANNUNCIATOR BOARD CONVERSION	
	APPD			
MATERIAL	APPD		SIZE A DRAWING NUMBER 81-12079-01 REV A	
	APPD			
FINISH			SCALE 2:1 SHEET 1 OF 1	
DO NOT SCALE DWG				

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MECHANICAL, INCLUDING
PHOTOCOPYING, RECORDING, OR
BY ANY INFORMATION STORAGE
RETRIEVAL SYSTEM.

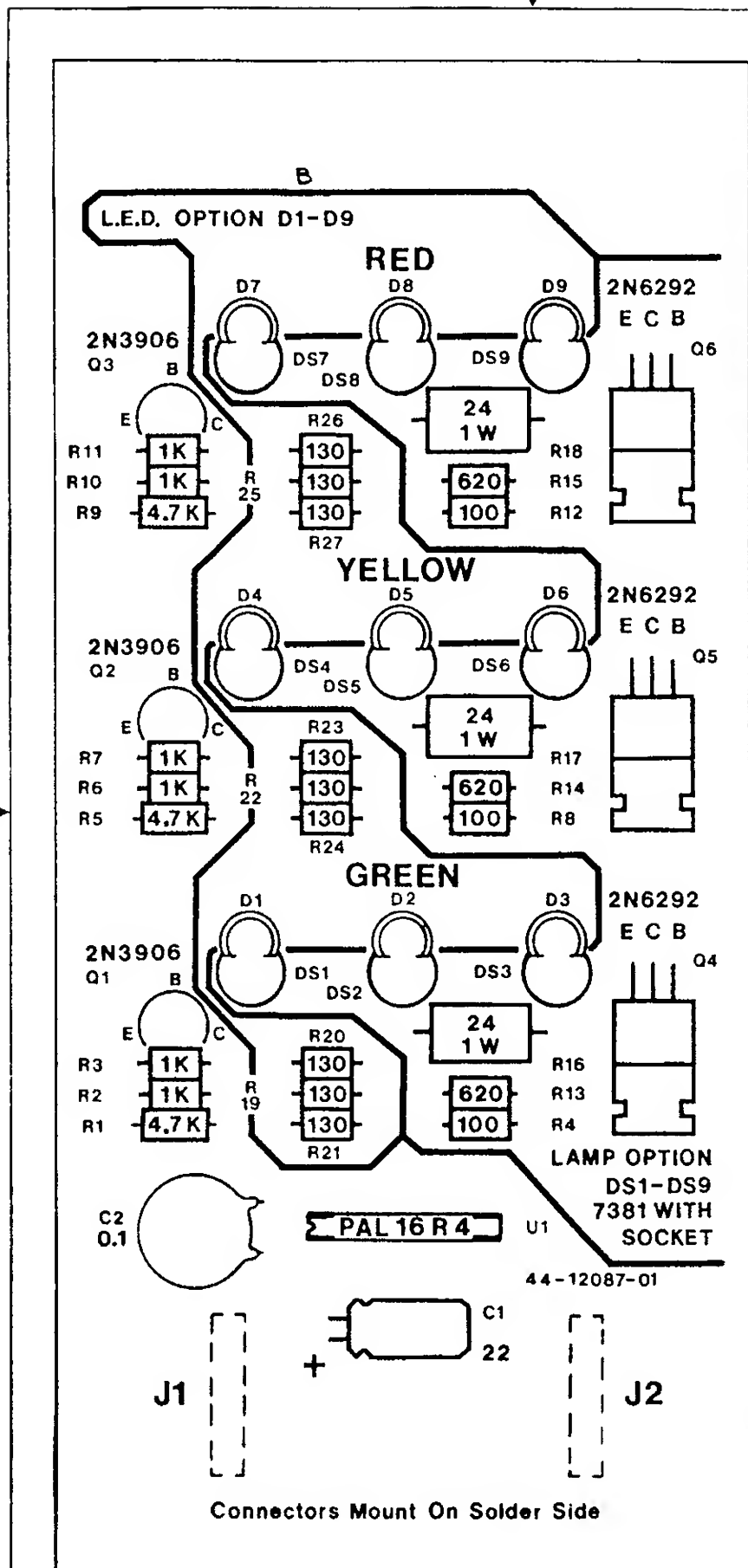
12
TO
L5547A1



CINERATRONICS		PAGE/ALUMINATOR	
DATE	REV.	DATE	REV.
12/1/78	1	12/1/78	1
DO NOT SCALE DIMS		DO NOT SCALE DIMS	
CONTAINING DIMS		CONTAINING DIMS	
PROPORTION		PROPORTION	
12-12079-01A		12-12079-01A	

1. RESISTOR VALUES ARE IN OHMS. 1/4 W, 5% C.

NOTES UNLESS OTHERWISE SPECIFIED



1 FEBRUARY 1984

El Cajon Ca 92020		INC.		DWG TITLE		ANNUNCIATOR WITH LAMPS		REV		REV	
CINEMATRONICS		INC.		DWG NO.		81-12079-02		SIZE		B	
DATE		DATE		DATE		DO NOT SCALE DWG		TOLERANCE UNLESS OTHERWISE SPECIFIED		PROJECTION: SCALE: 2:1	
DRAWN BY: JAV 503H		PROJECT ENGR:		RELEASE APPROV:		DO NOT SCALE DWG		TOLERANCE UNLESS OTHERWISE SPECIFIED		PROJECTION: SCALE: 2:1	
MATERIAL:		FINISH:		BREAK ALL SHARP EDGES AND DEBURR ALL HOLES.		MODEL NO.		DWG NO.		REV	
						81-12079-02		B		B	
						CODE IDENT.		SHEET 1 OF 1			

PROPRIETARY
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